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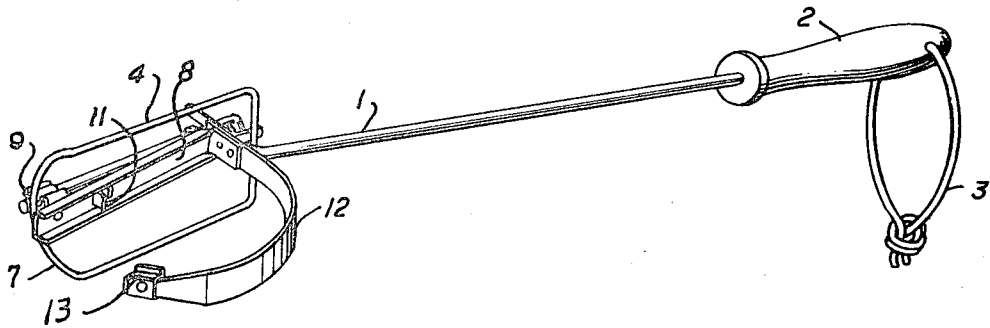
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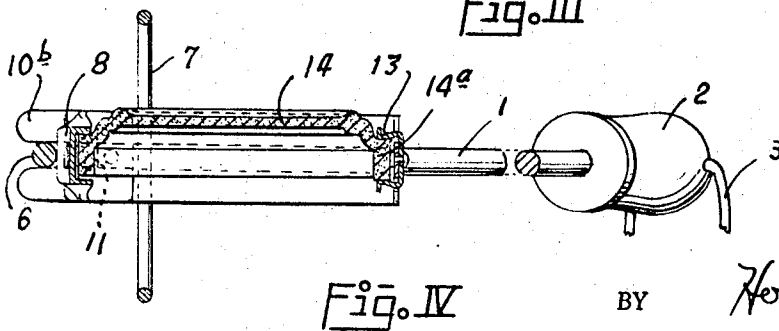
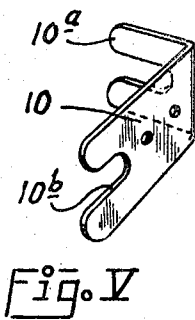
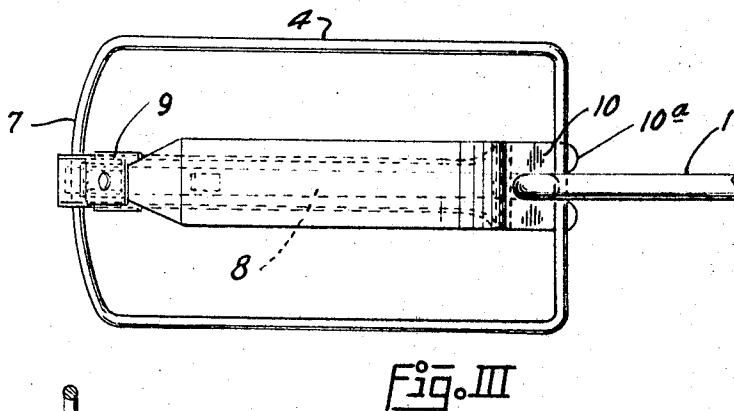
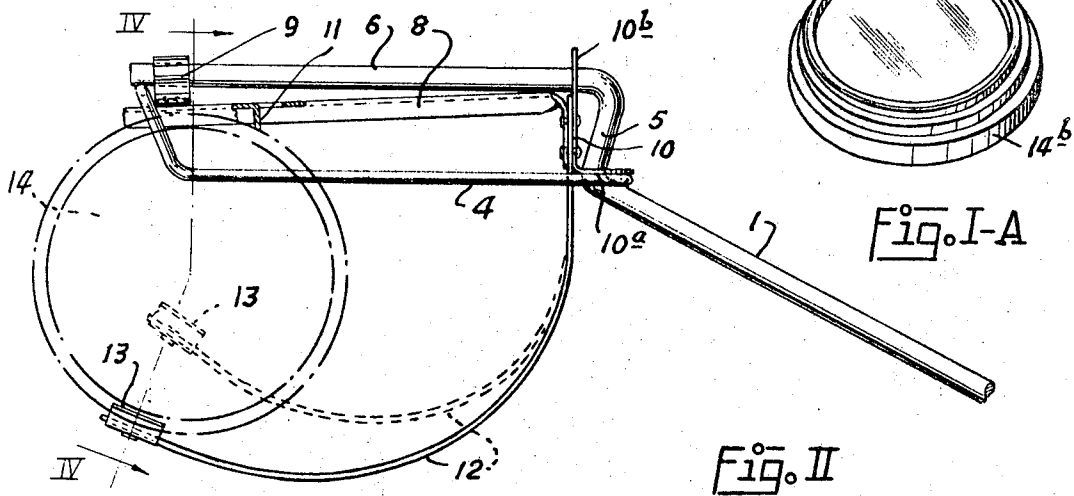
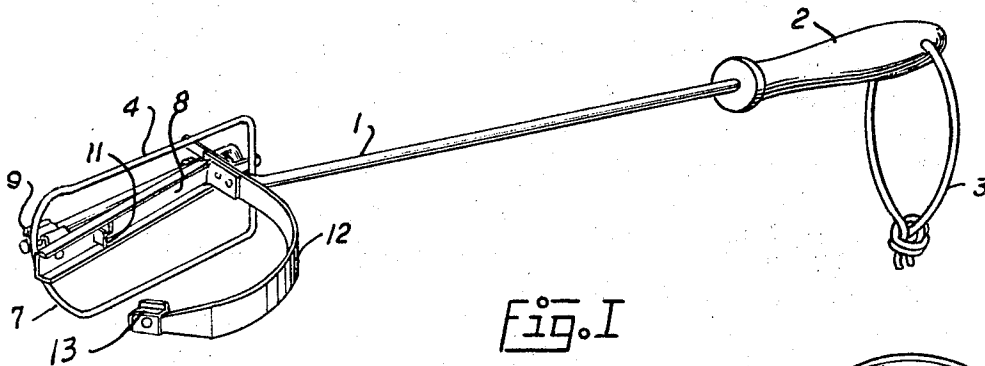
[54] **HAND-OPERATED TARGET PROJECTING
DEVICE**
7 Claims, 6 Drawing Figs.

[52] U.S. Cl..... 124/5,
124/43
[51] Int. Cl..... **F41b 3/04,**
[50] Field of Search..... 124/5, 6, 7,
8, 9, 43, 42

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ABSTRACT: A device for launching clay pigeon or the like used in target practice or skeet shooting comprising a handle having a support on the outer end thereof. A stop is provided on the support against which the edge of a clay pigeon or like device is positioned and a spring arm is carried by the support arranged to engage the outer periphery of the clay pigeon opposite the stop to retain same on the support. When the support is cast outwardly the momentum of the clay pigeon at the end of the casting stroke causes same to be separated from the spring arm and launched outwardly in a trajectory. A spring clamp is provided at the outward end of the spring arm which resiliently engages the rim of the clay pigeon impart a spin thereto as it is launched.





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HAND-OPERATED TARGET PROJECTING DEVICE

BACKGROUND OF INVENTION

At skeet-shooting ranges clay pigeons used in target practice are customarily launched by automatic mechanically operated launching devices which are relatively expensive and are not economically or practically feasible for installation and use by individuals.

No satisfactory hand-launching device which provides for desired distance, trajectory and spinning action for the clay pigeon has heretofore been devised.

SUMMARY OF INVENTION

It is, therefore, a primary object of this invention to provide a manually operated clay pigeon launcher which may be used by the individual shooter, which provides for the proper trajectory, distance and spinning action of a clay pigeon or like target, and at the same time is relatively inexpensive to manufacture.

Another object of the invention is to provide a hand-operated clay pigeon launcher which may be operated by one man which provides for the positive gripping engagement of the clay pigeon on the launching device in such manner that when the clay pigeon is propelled from the launching device a spinning motion is imparted thereto which imparts true direction and distance thereto in a desired trajectory.

A still further object of the invention is to provide a clay pigeon launcher which may be operated by one man and which grippingly engages the clay pigeon in such a manner as to prevent breakage of same.

Still another object of the invention is to provide a hand-operated clay pigeon launcher which is simple in structure, inexpensive to manufacture, compact, and easy to use.

Other and further objects of the invention will become apparent upon reading the detailed specification hereinafter following and by referring to the drawings annexed hereto.

DESCRIPTION OF DRAWING

A suitable embodiment of the invention is shown in the attached drawing wherein:

FIG. 1 is a perspective view of the clay pigeon launcher;

FIG. 1-A is a perspective view of a typical clay pigeon;

FIG. II is a side-elevational view of the head of the clay pigeon launcher, showing a clay pigeon mounted therein;

FIG. III is a top plan view of the head of the clay pigeon launcher;

FIG. IV is a cross-sectional view taken on the line IV-IV of FIG. II; and

FIG. V is a perspective view of the attachment bracket for detachably mounting the clay pigeon holder to the head therefor.

Numeral references are employed to indicate the various parts shown in the drawings and like numerals indicate like parts throughout the various FIGS. of the drawings.

DESCRIPTION OF A PREFERRED EMBODIMENT

The numeral 1 indicates a rodlike handle made of metal or other rigid material, which has a handhold 2 on the outer end thereof to which is attached a flexible armstrap 3 which may be passed about the arm of the user for carrying; and to prevent the launcher from being hurled forwardly in the event the handhold should slip out of the hand of the user.

A head is provided on the outer end of the handle 1 which includes a generally rectangular frame member 4 made of rigid rod material, the forward end of which is formed to provide a downwardly extending loop 7. The handle 1 is deflected downwardly, as indicated at 5, and is provided with a lower extension 6 which is parallel to the sides of the rectangular frame 4.

The outer end of the member 6 is welded to the lower edge of the loop 7 and to the handle 1 is welded to frame 4 at the point where the handle is deflected downwardly to form downwardly deflected portion 5.

The frame member hereinbefore described provides a receptacle and support for detachably mounting the clay pigeon holder hereinafter described. It should be readily apparent that the rectangular frame 4 braces lower extension 6 and downwardly deflected portion 5 of handle 1, preventing deflection of same during loading and launching of a clay pigeon. in gripping engagement with the longitudinally extending member 6 of the frame member or head 4.

An attachment member 10 is secured by rivets or other securing means to the inner end of the holder. The attachment member 10 includes right angularly disposed bifurcated legs 10a and 10b which are arranged to extend about the downwardly deflected portion 5 of the handle 1 and the longitudinally extending portion 6 of the head.

The holder may be detachably secured to the head 4 by extending the bifurcated ends 10a and 10b of the bracket 10 about the parts 5 and 6 of the head, and pressing the spring clip 9 downwardly about the forward end of the member 6 from inside the downwardly looped portion 7 of the head. Thereby the holder is recessed within the head in position to receive a clay pigeon or like target practice device.

An outwardly extending stop 11 is secured to the upper surface of the base member 8 in spaced relationship to the outer end thereof.

A flat arcuately shaped spring member 12 is secured at its inner end, as by rivets, to the bracket 10 and extends arcuately upwardly and outwardly with relation to the base 8.

A spring clip 13 is secured to the outer end of the spring member 12.

As shown in FIG. II, the rim 14a of a clay pigeon 14 may be positioned against the stop 11 and the spring member 12 may be flexed outwardly to allow the spring clip 13 to be pressed into gripping engagement with the edge 14a of the clay pigeon 14.

It will be noted that the spring clip 13 is positioned beyond the diameter line of the clay pigeon 14 which begins at the point where the rim thereof contacts the base member 8 so as to retain the clay pigeon in engagement with the holder and stop 11 until the momentum thereof, as hereinafter described, flexes the spring 12 outwardly sufficiently to allow same to be disengaged from the clip 13.

Preparatory to launching a clay pigeon with the device hereinbefore described the spring 12 is manually flexed outwardly, a clay pigeon 14 is placed against the stop 11 and the spring 12 is allowed to relax to bring the spring catch 13 into engagement with the rim 14a of the clay pigeon. The spring clip 13 is pressed into engagement with the rim 14a of the clay pigeon to thereby resiliently engage same.

To use the device hereinbefore described, the handle 2 is grasped by the user, preferably with the strap 3 extending about the wrist. The device is drawn backwardly and then rapidly moved forwardly in a throwing action. At the end of the forward stroke of the head 4 the momentum of the clay pigeon 14 will cause same to flex the spring 12 outwardly to allow same to be released from engagement with the base 8, which will allow the clay pigeon to be launched forwardly. Inasmuch as the edge of the clay pigeon is resiliently gripped by the resilient clip 13 the release of the clay pigeon from the clip imparts a spinning action thereto which provides for a straight trajectory and increases the distance of the launch thereof. It should also be noted (FIGS. II and III) that spring member 12 is arranged to exert force symmetrically on the clay pigeon to prevent wobbling of the pigeon in flight which further increases the distance of the launch.

It will be understood that the device hereinbefore described can be used to launch other disc-shaped members for any purpose whatsoever.

It will thus be seen that I have provided a manually operated clay pigeon launcher which permits a clay pigeon or like device to be launched by one man who may also be the shooter, wherein the clay pigeon is launched with a spinning motion to provide for a straight trajectory and maximum distance, wherein the clay pigeon is launched without danger of breakage and which is relatively inexpensive to manufacture and easy to use.

It will be understood that other and further embodiments of my invention may be devised without departing from the spirit and scope of the appended claims.

I claim:

1. In a device for launching a dislike member comprising: a substantially rigid handle; a head mounted on the handle at one end thereof, said head including a base member positioned within and running substantially the length of the head; a projectile stop secured to the base member intermediate opposite ends of the base member; an arcuate spring member having one end attached intermediate opposite sides of the head adjacent the mounting of the head and the other end being free; and a resilient gripping member on the outer end of the spring member arranged to grippingly engage the edge of a dislike member positioned against the stop.

2. The combination called for in claim 1 with the addition of a handhold on the outer end of the handle.

3. The combination called for in claim 2 with the addition of an arm-encircling strap attached to the outer end of the handhold.

4. In a device for launching a dislike member comprising: a handle; a head on the handle, said head comprising a substantially rectangular frame including end and side enclosure members, the outer end thereof being looped downwardly, and the free end of said handle being offset from an intermediate portion of said handle and formed to provide a longitudinal part with the outer end thereof secured to the downwardly looped end portion of said frame, and the inner end of said longitudinal part being secured to the opposite end

portion of the frame; said head including a base member; a stop secured to and spaced from the outer end of the base member; an arcuate spring member having one end attached to the base and the other end being free; and a gripping member on the outer end of the spring member arranged to grippingly engage the edge of a dislike member positioned against the stop.

5. The combination called for in claim 4 wherein the base member is detachably secured to the frame.

6. The combination called for in claim 5 wherein the base member is detachably attached to the base by a spring clip on the outer end thereof engageable with the longitudinal part of the base and a bracket secured to the base having right angularly disposed bifurcated legs thereon engageable about the offset portion of the handle and about the longitudinal part of the frame respectively.

7. In a device for launching a dislike member, a handle; a holder for the dislike member; said holder including a channel-shaped base member, a stop member extending outwardly of the base member and intermediate the opposite ends thereof, resilient means having one end secured to the inner end of the base member and a free end disposed in spaced-apart relation from the outer end of the base member, and a clip on the free end of the resilient means arranged to grippingly engage a dislike member positioned against the stop; and means to detachably secure the holder to the free end of the handle.

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